

Habitat Expansion Agreement Approach for Applying the Habitat Expansion Agreement Criteria to the List of Potential Actions

The Habitat Expansion Agreement (HEA) contains criteria to be applied for the evaluation (17 criteria), selection (4 criteria), and approval (6 criteria) of potential HEA actions. The criteria are presented in a way that implies a somewhat linear approach for their application. The Steering Committee has compiled approximately 120 potential actions (the list of potential actions [LPA]) from various sources, ranging from a proposal to “purchase water rights” to “instituting a trap-and-haul program” over the rim dams of the Sacramento River basin. Given the timeline called for in the HEA to complete a draft Habitat Expansion Plan (HEP), it has become apparent that it would not be productive or efficient to apply all 17 of the Evaluation Criteria to the 120 potential actions. Many of the potential actions would not individually, or in aggregate, meet a number of the Evaluation, Selection, and National Marine Fisheries Service (NMFS) Approval Criteria. Furthermore, the level of detail included for each of the actions varies significantly, as does the amount of available environmental data for each watershed. The Steering Committee has recognized that a different approach is needed to meet the objectives of the HEA in the specified timeline.

After spending approximately seven months gathering and refining the LPA using a variety of sources and developing a good working knowledge of the HEA criteria, the Steering Committee has developed an approach for applying the HEA criteria to the list. This approach will result in focusing the efforts of the Steering Committee, signatories, and potential stakeholders on those actions with the best chance to meet the HEA criteria and thus be included in the HEP. We believe that application of this approach will keep the implementation process moving forward within the specified timeline while meeting the objectives of the HEA (i.e., to identify the most promising, cost-effective actions to meet the targets defined by the Habitat Expansion Threshold [HET]).

The approach developed by the Steering Committee utilizes 10 significant factors that correlate to the HEA criteria. Each potential action is assigned a yes (Y) or no (N) designation or a high (H), medium (M), or low (L) designation for each of the factors. The 10 factors, not necessarily in order, include the following:

1. Known “deal killers” (no political support, subject to existing commitment, proposed action is a study or is regulatory in nature).

2. Measurability of contribution to HET (H – reasonably measurable with existing information, M – potential to become reasonably measurable with additional information, L – major effort [money, time] to obtain measurability).
3. Anticipated numeric contribution to HET (H – large area, high historical population estimates [potential for ≥ 500 adult spring-run Chinook salmon spawners]; L – small area, no or limited populations historically).
4. Outside of Butte, Mill, and Deer Creeks (Y or N).
5. Outside of Northern Sierra Diversity Group – Antelope Creek to American River, east side (Y or N).
6. Promotes segregation between spring-run and fall-run Chinook salmon (Y or N).
7. Acceptable length of time to implement ($Y \leq 5$, $N > 5$).
8. Expansion of habitat (Y or N).
9. Volitional passage provided (Y or N, applied only to expansion projects).
10. Signatory/stakeholder support (Y or N, as indicated by the submittal of a project questionnaire and/or supporting comment form).

The potential actions will be filtered using both single factors and groupings of factors to produce multiple short lists of actions.

Examples

- Applying a filter to remove “Y” designations for Factor 1 will filter out actions with known or presumed deal killers.
- Applying Factors 3, 4, 5, and 6 together will indicate which actions speak best to the Approval Criteria in the HEA.
- Applying Factors 2 and 7 can be used to help identify the more cost-effective actions.

After applying filters, the sub-lists will be combined, resulting in a shortened LPA. The shortened LPA will include the most promising potential actions, which the Steering Committee can focus on or potentially combine with other actions to collectively lead to the goal of meeting the Approval Criteria. *No action will necessarily be permanently eliminated from the LPA utilizing this approach.* However, the approach will result in identification of those actions considered most favorable, which will then be evaluated against all of the HEA criteria and may be recommended for inclusion in the draft HEP.

Methodology of the Approach

The filtering approach consists of three steps: (1) initial screening; (2) application of filter sets; and (3) application of modifiers. The LPA is used as the base template for the filtering approach. The LPA

consists of those actions identified by the Steering Committee as having the potential to fulfill the HEA (~120 actions). The initial screening step removes all actions with unmistakable deal killers (i.e., a “yes” answer to the deal killer question [see Factor 1 below]). The remaining actions form the list against which the filter sets are applied. The filter sets consist of individual factors, or combination of factors, that are identified as being the most basic and important factors for meeting the HEA criteria and leading to an acceptable HEP. Application of the filter sets produces a series of short lists of potential actions meeting a definitive subset of the factors. Modifiers are then applied to the various short lists to rank the actions. Modifiers consist of individual factors, or combination of factors, that are secondary to the filter sets but still contribute to the ranking of actions. The sub-lists of actions resulting at the end of this process will be combined into a shortened LPA comprised of the most promising potential actions and will serve as the basis for further evaluation.

Initial Screening

The initial “deal-killer” screen is applied to the LPA.

Definition: Factor 1 = N or Maybe
1. Known “deal killers” (no political support, subject to existing commitment; proposed action is a study or is regulatory in nature)

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The initial screening removes all actions with known “deal killers” (those with no political support; actions that have been completed or are already subject to an existing commitment, such as those listed in Section 3.2 of the HEA; or an action that is a study or requires a regulatory change) based on input from signatories and stakeholders. The remaining actions have the highest potential for meeting Approval Criterion (e) (meets requirements for eligible habitat expansion actions) and Evaluation Criterion (n) (low expectation for action to be otherwise undertaken).

Only those actions with a Factor 1 value of “Maybe” or “No” are kept on the LPA that moves into the next step of applying filtering sets.

Application of Filter Sets

A series of filter sets are applied to the LPA, as modified by the initial screening. These filter sets are described in the following sections.

Filter Set A

Definition: Factor 3 = H, Factor 4 = Y, Factor 5 = Y, and Factor 6 = Y

3. Anticipated numeric contribution to HET (H or L)
4. Outside of Butte, Mill, and Deer Creeks (Y or N)
5. Outside of Northern Sierra Diversity Group (Y or N)
6. Promotes segregation between spring-run and fall-run Chinook salmon (Y or N)

This filter set identifies those actions that best meet the Approval Criteria: (a) meets the HET; (c) supports establishing a geographically separate, self-sustaining spring-run population; and (d) supports segregating spring-run and fall-run Chinook salmon. It also contributes to Selection Criterion (a) (contribution to achieving the HET) and Evaluation Criteria (f) (spatial separation from other populations [segregation of spring- and fall-run Chinook salmon]) and (g) (spatial separation from other spawning streams).

If an action is located in a watershed with a relatively high population of salmon historically, affects a large area of a watershed, or otherwise has potential to substantially contribute toward the HET, the action receives an “H” or high rating for Factor 3 and remains on the list. Similarly, if the action is located outside of the Butte, Mill, and Deer Creek watersheds (Factor 4), which already have self-sustaining populations; is located outside of the Northern Sierra Diversity Group (Factor 5); and promotes the segregation of spring-run and fall-run Chinook salmon (Factor 6), it remains on the list.

Filter Set B

Definition: Factor 8 = Y

8. Expansion of habitat (Y or N)

This filter set identifies those actions that would lead to the expansion of spawning, holding, or rearing habitat where it is not currently accessible and highlights actions that may result in a new, independent population of spring-run. These actions meet Evaluation Criterion (b), which states that increased habitat is favored over enhanced habitat, and may contribute to the establishment of a geographically separate population (Approval Criterion [c]).

Filter Set C

Definition: Factor 10 = Y

10. Signatory/stakeholder support (Y or N, as indicated by the submittal of a project questionnaire and/or supporting comment form.)

This filter set identifies those actions for which a project questionnaire has been received from a signatory or stakeholder. The Steering Committee views these actions as having favorable local/political support (Evaluation Criterion [i]), a key element to the successful implementation of any project.

Filter Set D

Definition: Factor 3 = H and Factor 6 = Y

3. Anticipated numeric contribution to HET (H or L)
6. Promotes segregation between spring-run and fall-run Chinook salmon (Y or N)

This filter set identifies actions with a high likelihood to substantially contribute to the HET and that promote segregation of spring- and fall-run Chinook salmon. However, unlike Filter Set A, this filter set does not exclude actions within Butte, Mill, and Deer Creeks or within the Northern Sierra Diversity Group as a whole. It reflects Approval Criteria (a), (c), and (d); Selection Criterion (a); and Evaluation Criterion (f).

Filter Set E

Definition: Factor 3 = H, Factor 4 = Y and Factor 6 = Y

3. Anticipated numeric contribution to HET (H or L)
4. Outside of Butte, Mill, and Deer Creek (Y or N)
6. Promotes segregation between spring-run and fall-run Chinook salmon (Y or N)

This filter set identifies actions with a high likelihood to contribute to the HET; that provide segregation of spring- and fall-run Chinook salmon; and that are located outside of Butte, Mill, and Deer Creeks. However, unlike Filter Set D, this filter set allows actions to be within the remainder of the Northern Sierra Diversity Group. It reflects Approval Criteria (a), (d), and possibly (c); Selection Criterion (a); and Evaluation Criterion (f).

Application of Modifiers

Modifiers are applied to the results of each of the above Filter Sets A through E.

Modifier 1

Definition: Factor 2 = H or M and Factor 7 = Y
2. Measurability of contribution to HET (H, M, or L)
7. Acceptable length of time to implement ($Y \leq 5$, $N > 5$)

This modifier helps identify actions that are feasible and cost effective. It is assumed that, if an action requires major data collection to determine feasibility or takes more than 5 years to implement, it is not feasible or cost effective in terms of the goals of the HEA. This modifier reflects Approval Criterion (f); Selection Criteria (b), (c), and (d); and Evaluation Criterion (h).